

PUBLICATIONS

Peer-reviewed journal papers – published

1. **A. Ambekar**, A. Chowdhury, S. Challa, and D. Radhakrishna, “Droplet combustion studies of hydrocarbon-monopropellant blends”, *Fuel*, vol. 115, pp. 697–705, 2014.
URL: <http://www.sciencedirect.com/science/article/pii/S0016236113006558>
2. **A. Ambekar**, S. Sreedhara, and A. Chowdhury, “Burn rate characterization of iso-propyl nitrate - A neglected monopropellant”, *Combust. Flame*, vol. 162, no. 3, pp. 836–845, 2015.
URL: <http://www.sciencedirect.com/science/article/pii/S0010218014002703>
3. **A. Ambekar**, R. Bhangale, R. Chatterjee, C. Kulkarni, S. Kumar, and A. Chowdhury, “Glow-plug-assisted combustion of nitromethane sprays in a constant volume chamber”, *Appl. Therm. Eng.*, vol. 76, pp. 462–474, 2015.
URL: <http://www.sciencedirect.com/science/article/pii/S135943111401076X>
4. **A. Ambekar** and A. Chowdhury, “A Review of the Combustion Characteristics of Monopropellants”, *Ann. Indian. Acad. Eng.*, vol. XIII, pp. 326-332, 2016.
5. **A. Ambekar**, M. Kim, and J. J. Yoh, “Characterization of display pyrotechnic propellants: Colored light”, *Appl. Therm. Eng.*, vol. 110, pp. 1066–1074, 2017.
URL: <http://www.sciencedirect.com/science/article/pii/S1359431116316362>
6. **A. Ambekar**, M. Kim, W. H. Lee, and J. J. Yoh, “Characterization of display pyrotechnic propellants: Burning rate,” *Appl. Therm. Eng.*, vol. 121, pp. 761–767, 2017.
URL: <http://www.sciencedirect.com/science/article/pii/S1359431116319135>
7. Y. Kim, **A. Ambekar**, and J. J. Yoh, “Toward understanding the aging effect of energetic materials via advanced isoconversional decomposition kinetics”, *J. Therm. Anal. Calorim.*, 2017.
URL: <https://link.springer.com/article/10.1007/s10973-017-6778-2>
8. **A. Ambekar** and J. J. Yoh, “A reduced order model for prediction of the burning rates of multicomponent pyrotechnic propellants”, *Appl. Therm. Eng.*, vol. 30, pp. 492–500, 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S1359431117347786>
9. U. Swami, **A. Ambekar**, D. Gondge, S. Sreedhara, and A. Chowdhury, “Burn rate characterization of desensitized isopropyl nitrate blends”. *Combust. Flame*, vol. 190, pp. 454-466, 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S0010218017304650>

10. **A. Ambekar**, A. Kumar, and A. Chowdhury, “Droplet combustion studies of nitromethane and its blends”. Exp. Therm. Fluid Sci., vol. 93, pp. 431–440, 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S0894177718300578>
11. **A. Ambekar** and A. Chowdhury, “An experimental technique for determination of intrinsic burning rate constants of liquid fuels”, Appl. Therm. Eng., vol. 135, pp. 238–245, 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S135943111730248X>
12. **A. Ambekar** and J. J. Yoh, “Chemical kinetics of multi-component pyrotechnics and mechanistic deconvolution of variable activation energy”. Proc. Combust. Inst., In Press, 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S1540748918301482>
13. J. Oh, **A. Ambekar**, and J. J. Yoh, “The hygrothermal aging effects of titanium hydride potassium perchlorate for pyrotechnic combustion”. Thermochim. Acta., vol. 665, pp. 102–110, 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S0040603118302569>
14. **A. Ambekar** and J. J. Yoh, “Kinetics deconvolution study of multi-component pyrotechnics”. Thermochim. Acta., vol. 667, pp. 27–34. 2018.
URL: <https://www.sciencedirect.com/science/article/pii/S0040603118301667>

Peer-reviewed journal papers – under review

1. None

Manuscripts under preparation

1. **A. Ambekar** and A. Chowdhury, “Burn Rate Characterization of Isopropyl Nitrate – A Neglected Monopropellant: Part II”.
2. **A. Ambekar** and A. Chowdhury, “Instabilities in Isopropyl Nitrate Flames in Oxidizing Atmospheres”.
3. **A. Ambekar** and J. J. Yoh, “Assessment of 3D printing technology for potential application towards manufacturing composite propellants”.
4. **A. Ambekar**, J. Oh, and J. J. Yoh, “Effects of thermal ageing on pyrotechnic compositions”.

Conference papers

1. **A. Ambekar** and A. Chowdhury, “Combustion of Blended Monopropellants”, 48th AIAA/ ASME/ SAE/ ASEE Joint Propulsion Conference & Exhibit, July 2012.

2. **A. Ambekar**, L. Mallick, R. Gandhi, A. Chowdhury, D. Radhakrishna, and S. Challa, "Burn Rate Characterization of Iso-propyl Nitrate Blends: Part I", 49th AIAA/ ASME/ SAE/ ASEE Joint Propulsion Conference, July 2013.
3. **A. Ambekar**, L. Mallick, R. Gandhi, A. Chowdhury, D. Radhakrishna, and S. Challa, "Burn Rate Characterization of Iso-propyl Nitrate Blends: Part II", 49th AIAA/ ASME/ SAE/ ASEE Joint Propulsion Conference, July 2013.
4. **A. Ambekar**, R. Bhangale, A. Dukale, R. Gandhi, A. Chowdhury, D. Radhakrishna, and S. Challa, "Ignition and Combustion of Nitromethane Sprays", 49th AIAA/ ASME/ SAE/ ASEE Joint Propulsion Conference. July 2013.
5. **A. Ambekar**, L. Mallick, R. Gandhi, A. Chowdhury, "Droplet Combustion Study of Blended Monopropellants", 9th Asia-Pacific Conference on Combustion (ASPACC), 19-22 May 2013.
6. **A. Ambekar**, R. Bhangale, A. Dukale, R. Gandhi, A. Chowdhury, "Ignition and Combustion of Isopropyl Nitrate Sprays", 9th Asia-Pacific Conference on Combustion (ASPACC), 19-22 May 2013.
7. S. K. Saini, S. Mohanan, **A. Ambekar**, A. Chowdhury, A. Srivastava, "Optical Diagnostic of Temperature Distribution in a Monopropellant Flame using Mach Zehnder Interferometer", Proceedings of the 22nd National and 11th International ISHMT-ASME Heat and Mass Transfer Conference, 28-31 December 2013.
8. A. Kumar, **A. Ambekar**, Sreedhara S., A. Chowdhury, "An Analytical Study of Monopropellant Droplet Combustion", 5th International and 41st National Conference on Fluid Mechanics and Fluid Power (FMFP), 12-14 December 2014.
9. **A. Ambekar** and A. Chowdhury, "Experimental Prediction of Intrinsic Burning Rate Constants of Liquid Fuel Droplets", 10th Asia-Pacific Conference on Combustion (ASPACC), 19-22 July 2015, Beijing, China.
10. **A. Ambekar** and A. Chowdhury, "A Semi-Analytical Method for Determination of Burn Rates of Liquid Monopropellant Strands", 10th Asia-Pacific Conference on Combustion (ASPACC), 19-22 July 2015, Beijing, China.
11. **A. Ambekar** and A. Chowdhury, "Instabilities in Isopropyl Nitrate Flames in Oxidizing Atmospheres", 10th Asia-Pacific Conference on Combustion (ASPACC), 19-22 July 2015, Beijing, China.
12. L. Mallick, **A. Ambekar**, S. Lal, N. R. Kumbhakarna, A. Chowdhury, I.N.N. Namboothiri, "Thermodynamic and thermal characterization of bishomocubane

derivatives as possible binders in composite solid propellants”, 10th Asia-Pacific Conference on Combustion (ASPACC), 19-22 July 2015, Beijing, China.

13. **A. Ambekar**, and Jack J. Yoh, “Comparative study of burning rate correlations for pyrotechnic compositions”, 16th International Symposium on Fireworks (ISF), Omagari, Daisen City, Akita Prefecture, Japan, April 24-29, 2017.
14. **A. Ambekar**, J. Oh, Y. Kim, and J. J. Yoh, “Kinetic study of multi-component pyrotechnics: observations and interpretations of the DSC curves”, 11th Asia-Pacific Conference on Combustion (ASPACC), 10th -14th December 2017, The University of Sydney, NSW Australia.
15. **A. Ambekar** and J. J. Yoh, “Assessment of 3D printing technology for potential application towards manufacturing composite propellants”, 11th Asia-Pacific Conference on Combustion (ASPACC), 10th -14th December 2017, The University of Sydney, NSW Australia.
16. J. Oh, **A. Ambekar**, Y. Kim, and J. J. Yoh, “Effects of humidity levels, and periods on pyrotechnic initiators’ aging”, 11th Asia-Pacific Conference on Combustion (ASPACC), 10th -14th December 2017, The University of Sydney, NSW Australia.

Posters

1. **A. Ambekar**, M. Kim, W. H. Lee, and J. J. Yoh, “Experimental and numerical study of combustion of a pyrotechnic star”, 36th International Symposium on Combustion, July 31 – August 5, 2016, Seoul, Korea.
2. **A. Ambekar** and J. J. Yoh, “Thermogravimetric Analysis of Commercial Pyrotechnic Compositions”, 2016 KSPE Fall Conference, Gangwan-do, South Korea, 21-23 Dec. 2016.